Ambient Air Monitoring Program

Acronyms and Definition of Terms

December 2014

AQS: Air Quality System. Houses the national database and data management system, administered by the EPA, which houses the entirety of the ambient air pollution data collected by the nation's federal, state, local and tribal air pollution control agencies from thousands of monitoring stations. AQS also contains meteorological data, descriptive information about each monitoring station (including its geographic location and its operator), and data quality assurance/quality control information.

BAM: Beta Attenuation Monitor. A type of PM2.5 monitor in which the quantity of fine particulates collected on a sample filter or tape is determined by the degree to which the particulates attenuate (block) a stream of beta particles issued from a radioactive source.

BAM Coarse: Subtracts PM 2.5 from PM 10.

Celiometer: Measures mixing height.

CFR: Code of Federal Regulations. A compilation of all current federal regulations.

CO: Carbon monoxide, a colorless, odorless and poisonous gas produced by the incomplete combustion of fuels. A major pollutant produced in large quantities by gasoline-powered vehicles.

Co-located (COL): A collocated sampler is of the same type as the primary, and run on the same sampling days under identical conditions. It is sited within a specified distance from the primary sampler.

Continuous PM2.5: Any of various automated PM2.5 samplers that collect continuous real-time data and generally report that data as one-hour averages.

Criteria Pollutant: Under provisions of the Clean Air Act, which is intended to improve the quality of the air we breathe, EPA sets limits on how much of a pollutant can be in the air anywhere in the United States. This ensures that all Americans have the same basic health and environmental protections. The law allows individual states to have stronger pollution controls, but states are not allowed to have weaker pollution controls than those set for the whole country. EPA calls these pollutants "criteria air pollutants" because the agency has regulated them by first developing health-based criteria (science-based guidelines) as the basis for setting permissible levels. One set of limits (primary standard) protects health; another set of limits (secondary standard) is intended to prevent environmental and property damage. The six criteria pollutants are O3, NO2, CO, SO2, particulate matter (PM10, PM2.5), and lead.

FEM: Federal Equivalent Method. An instrument that employs a method other than the Federal Reference Method but meets the requirements for measuring a species specified in 40 CFR Part 53, subchapter B.

FRM: Federal Reference Method, An instrument that employs a method specified in 40 CFR Part 50.

MSA: Metropolitan Statistical Area

NAAQS: National Ambient Air Quality Standards. A maximum concentration above which adverse effects on human health may occur.

NCore: National Core (NCore) multi-pollutant monitoring stations. These stations will provide data on several pollutants at lower detection limits and replace the National

Air Monitoring Station (NAMS) networks that have existed for several years.

NO2: Nitrogen Dioxide. A by-product of incomplete combustion that is intimately involved in photochemistry and ozone formation, as well as acid rain formation.

NOx: A measure of total Oxides of Nitrogen, consisting primarily of nitrogen dioxide (NO2) and nitric oxide (NO).

NO_y: Total reactive nitrogen. A collective name for oxidized forms of nitrogen in the atmosphere, such as nitric oxide (NO), nitrogen dioxide (NO2), nitric acid (HNO3), and organic nitrates.

O3: Ozone – a colorless gas that results from complex chemical reactions between oxides of nitrogen (NOx) and volatile organic compounds in the presence of sunlight.

PAMS: Photochemical Assessment Monitoring Stations.

PM2.5: Particulate matter with an aerodynamic diameter of less than 2.5 microns. This size particulate is thought to be primarily responsible for harmful health effects. Because of their small size (about one-thirtieth the width of a human hair), these fine particles can lodge deeply into the lungs.

PM10: Particulate matter with an aerodynamic diameter of less than 10 microns.

PM10-2.5: Also called PMc or PMcoarse. They are inhalable coarse particles, such as those found near roadways and dusty industries. They have diameters larger than 2.5 micrometers and smaller than 10 micrometers. There is currently no standard for this size particulate.

SLAMS: State and Local Air Monitoring Station.

SO2: Sulfur Dioxide. A by-product produced when sulfur-containing fossil fuels (coal, oil, etc.) are burned.

SPMS: Special Purpose Monitoring Station

STN: Speciation Trends Network. A network of sampling locations established by the EPA in 2001 to characterize PM2.5 composition in urban areas.

TEOM: Thermo Scientific Continuous Particulate Tapered Element Oscillating Microbalance (TEOM) monitor, series 1400a

VOC: Volatile Organic Compound. A term sometimes used interchangeably with PAMS, which refers to the reactive hydrocarbons involved with ozone formation.